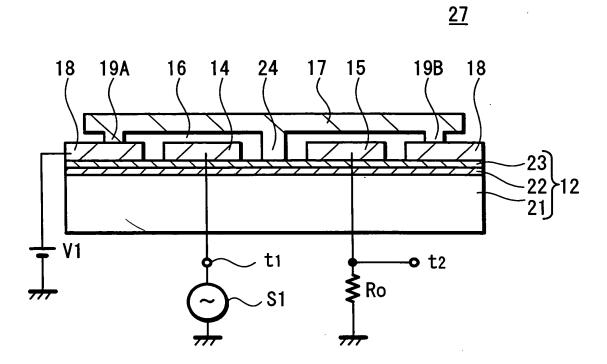
F/G. 1



F/G. 2

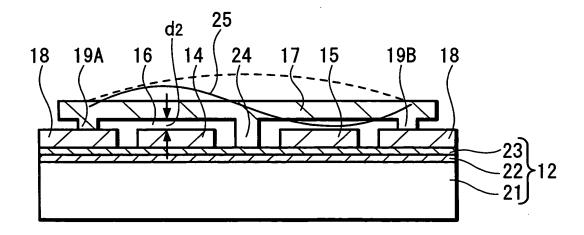
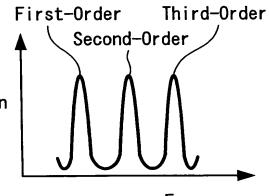


FIG. 3A

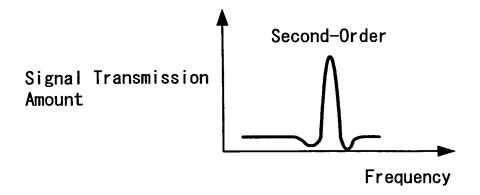
Signal Transmission Amount

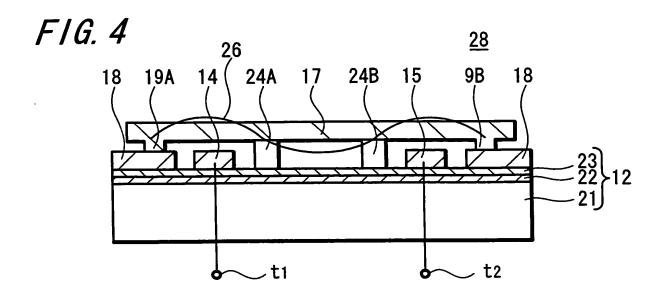


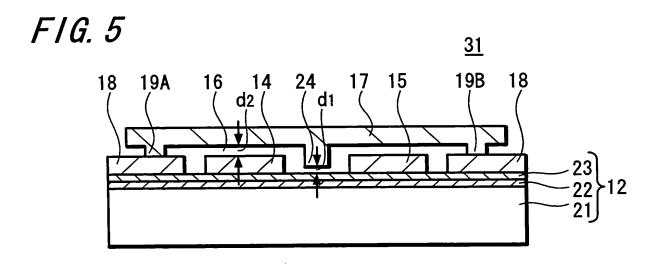
Frequency



FIG. 3B







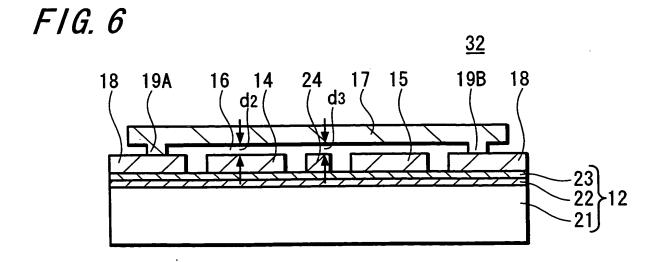


FIG. 7A

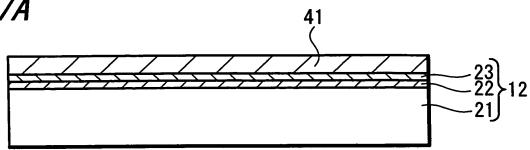
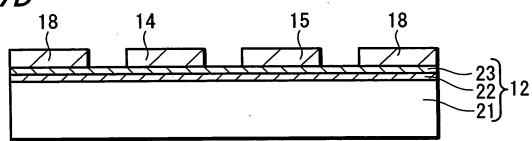


FIG. 7B



F1G. 7C

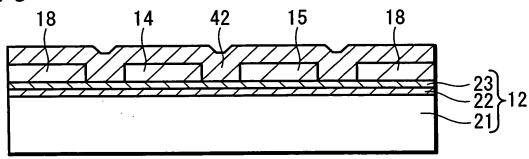


FIG. 7D

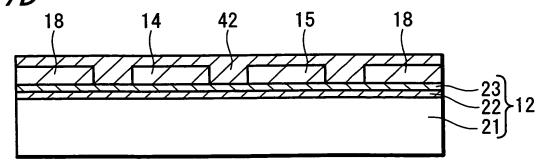


FIG. 8A

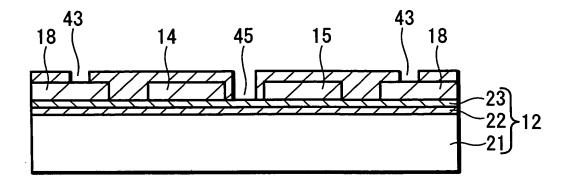
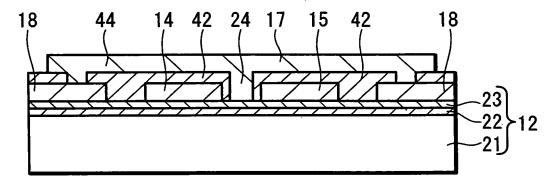


FIG. 8B



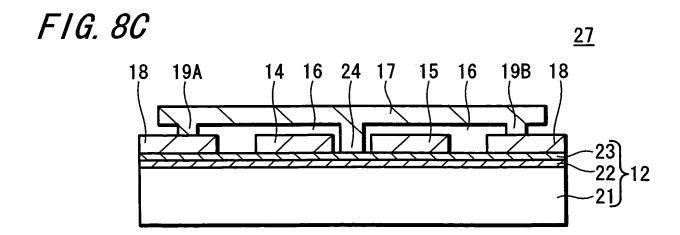


FIG. 9A

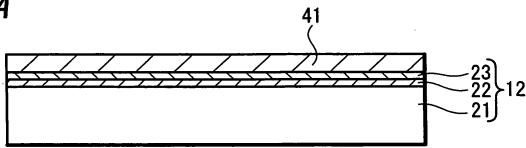


FIG. 9B

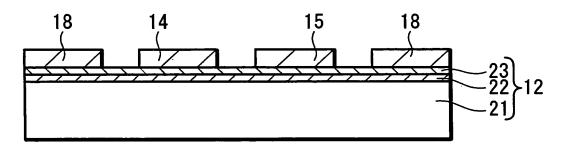


FIG. 9C

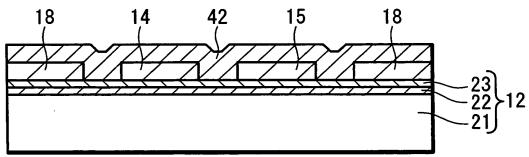


FIG. 9D

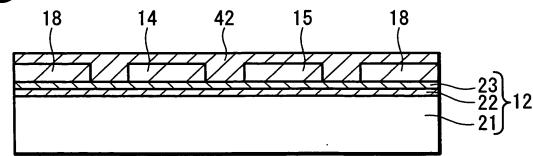


FIG. 10A

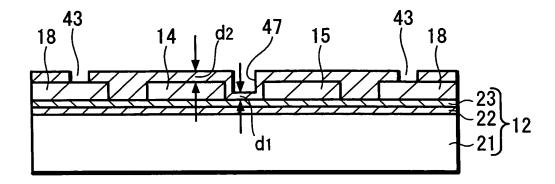
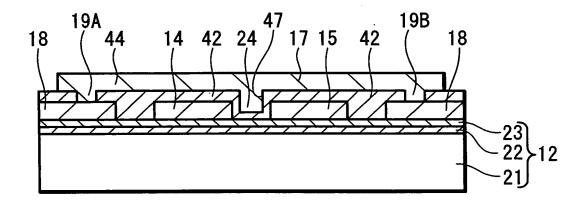


FIG. 10B



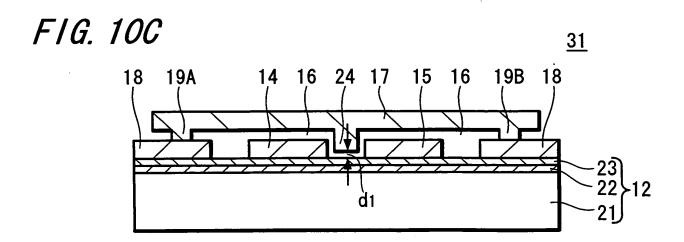


FIG. 11A

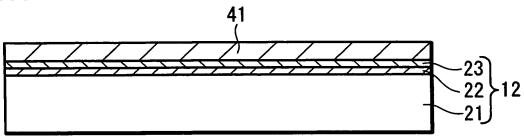


FIG. 11B

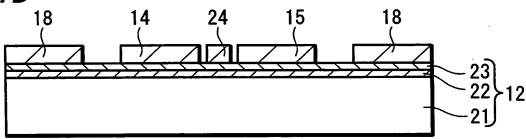


FIG. 11C

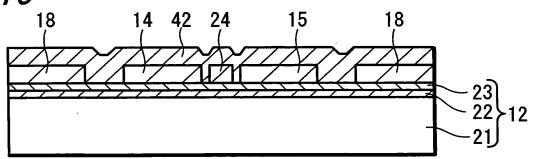


FIG. 11D

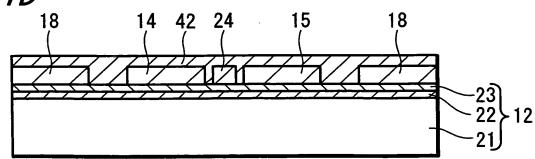


FIG. 12A

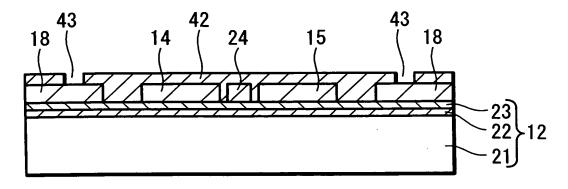


FIG. 12B

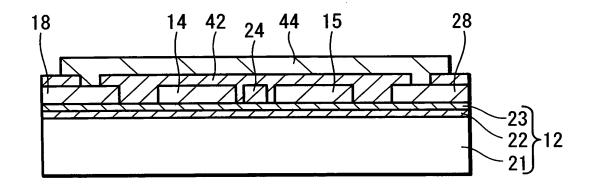
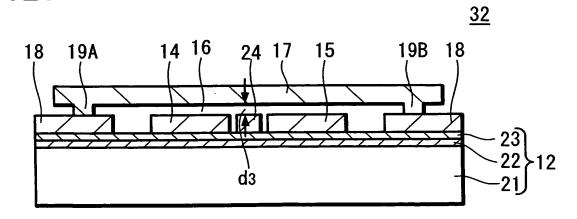


FIG. 12C



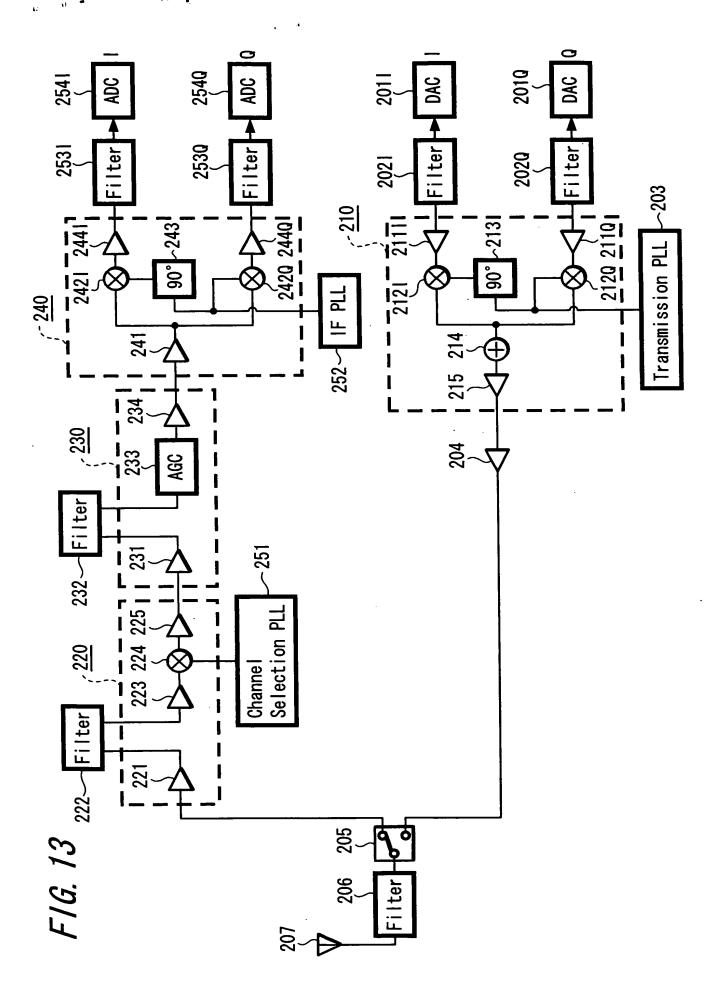
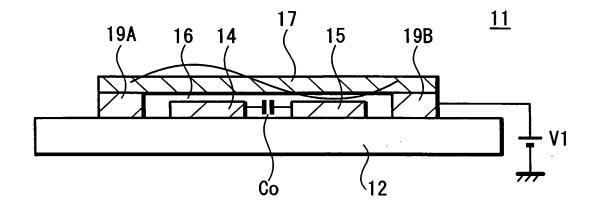
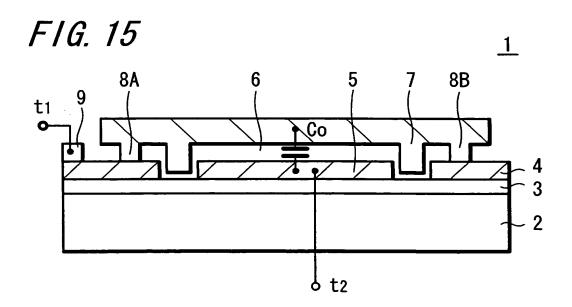


FIG. 14





DESCRIPTION OF REFERENCE NUMERALS

- 1 --- OSCILLATION ELEMENT
- 2 --- SEMICONDUCTOR SUBSTRATE
- 3 --- INSULATION FILM
- 4 --- INPUT-SIDE WIRING LAYER
- 11, 27, 28, 31, 32 --- MEMS RESONATOR
- 12 --- SUBSTRATE
- 14 --- INPUT ELECTRODE
- 5, 15 --- OUTPUT ELECTRODE
- 6, 16 --- SPACE
- 7, 17 --- OSCILLATION ELECTRODE
- 18 --- WIRING LAYER
- 8 [8A, 8B], 19 [19A, 19B] --- SUPPORT PORTION
- 21 --- SILICON SUBSTRATE
- 22 --- SILICON OXIDE FILM
- 23 --- SILICON NITRIDE FILM
- 24 [24A, 24B] --- SUPPORT COLUMN
- 25 --- SECOND-ORDER OSCILLATION MODE
- 26 --- THIRD-ORDER OSCILLATION MODE
- 41 --- CONDUCTIVE FILM
- 42 --- SACRIFICE LAYER
- 43 --- CONTACT HOLE
- 44 --- CONDUCTIVE FILM
- 45, 47 --- OPENING

- S1 --- HIGH FREQUENCY SIGNAL
- t1 --- INPUT TERMINAL
- t2 --- OUTPUT TERMINAL
- V1 --- DC BIAS VOLTAGE
- 2011, 201Q --- DIGITAL/ANALOGUE CONVERTER
- 202I, 202Q, 211I, 211Q --- BAND-PASS FILTER
- 210 --- MODULATOR
- 212I, 212Q --- MIXER
- 203 --- PLL CIRCUIT
- 213 --- PHASE SHIFTER
- 214 --- ADDER
- 215 --- BUFFER AMPLIFIER
- 204 --- POWER AMPLIFIER
- 205 --- TRANSMISSION-RECEPTION SWITCHING UNIT
- 206 --- HIGH FREQUENCY FILTER
- 207 --- ANTENNA
- 220 --- HIGH FREQUENCY PORTION
- 221 --- LOW NOISE AMPLIFIER
- 244I, 244Q --- BUFFER AMPLIFIER
- 222, 232 --- BAND-PASS FILTER
- 223, 225, 231, 234 --- BUFFER AMPLIFIER
- 224 --- MIXER
- 251 --- CHANNEL SELECTION PLL CIRCUIT
- 233 --- AGC CIRCUIT
- 240 --- DEMODULATOR

252 --- INTERMEDIATE FREQUENCY PLL CIRCUIT

242I --- MIXER

243 --- PHASE SHIFTER

2531, 253Q --- BAND-PASS FILTER

2541, 254Q --- ANALOGUE/DIGITAL CONVERTER